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Effect of a ganglioblocker, mecamylamine, on muscle ionotropic cholinoreceptors of rats

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Abstract

We studied the effect of mecamylamine (MA), a preparation well known to possess a wide range of therapeutic action, on currents induced in rat muscle cells by application of acetylcholine. Mecamylamine decreased the amplitude of these currents in a dose-dependent manner. Upon action of MA on rat muscle cholinoreceptors (ChRs), we observed the phenomenon of partial reversible deblocking, which is typical of blockers of the trap type, under conditions of agonist-induced activation of ChRs combined with depolarization of the membrane. In the case where the agonist was applied in high concentrations, MA did not reduce but only shortened the current responses; under conditions of depolarization of the membrane, application of MA did not exert any effect. © Springer Science+Business Media, Inc. 2005.

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Keywords

Ionotropic cholinoreceptor, Trap-type blockade of an open channel